CHRISTIE

Coolant Refill Instruction Sheet

The following procedure should be performed whenever the coolant system needs to be refilled.
NOTICE: *Never allow the pump to run dry to avoid damaging it.*

SAFETY AND WARNING GUIDELINES

⚠ DANGER 1) Coolant contains ethylene glycol. Use caution when handling. DO NOT ingest. Minimize contact with skin. Refer to the Material Safety Data Sheet provided in the coolant kit for more information. Use only Christie approved coolants with your projector. 2) ELECTRICAL SHOCK HAZARD! Always turn off, disconnect, and disengage all power sources to the projector before servicing. Failure to comply results in death or serious injury.

⚠ WARNING 1) NON-INSULATED DANGEROUS VOLTAGES MAY BE EXPOSED! Always disconnect from AC prior to disassembly. 2) OBSERVE ALL ELECTROSTATIC PRECAUTIONS! Use a grounded wrist strap when handling electronic assemblies.

⚠ CAUTION 1) Allow the cooling fans to automatically turn OFF before disconnecting from AC and opening the projector. Depending on your projector model this can take 10-15 minutes. 2) Never operate the projector (or the fans) without all the covers installed. 3) Only Christie accredited service technicians are permitted to open any enclosure on the projector and only if the AC power has been fully disconnected. Failure to comply could result in minor or moderate injury.

SERVICING LIVE EQUIPMENT

Only Christie accredited technicians who are knowledgeable about the hazards associated with hazardous voltage, ultraviolet exposure, and high temperatures are authorized to assemble, install, and service Christie equipment.

To make sure you remain safe when servicing energized (live) Christie equipment:

- Locate the main AC power shut off prior to servicing the equipment. This will allow you to turn the power off quickly in an emergency.
- Disconnect the projector from the communication and management network so it cannot receive commands to turn the lamp on, open the douser, and move the lens.
- Familiarize yourself with all potential safety hazards prior to servicing the equipment. This includes, but is not limited to, the location and accessibility of hazardous voltages.
- Read and understand all written procedures prior to commencing a service procedure.
- Understand and follow all local safety codes and requirements when servicing energized (live) equipment.

- Perform equipment service in a location free of obstructions and other hazards. For example, you must have an unobstructed view of the area being serviced.
- Wear personal protective equipment (PPE) clothing appropriate to the service you are performing. This includes, but is not limited to, protective (electrically insulated) footwear, safety glasses, and gloves rated for the working voltage of the equipment you are servicing.

KITS REQUIRED

- #003-001837-xx Coolant Refill Kit *(includes JeffCool E105 jug of coolant, refill bottle, funnel, MSDS sheet)*

INSTRUCTIONS

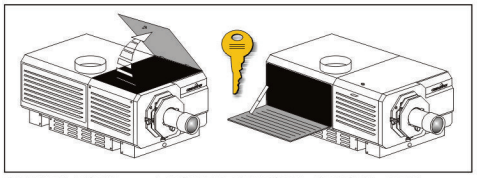
SERIES I

Series 1 projectors include the CP2000-S/-SB/-h/-i/-X/-XB/-Z/-M/-MR and the Roadie 25K/HD+30K/HD+35K. For details on how to flush the coolant system on these models refer to, ***Roadie 25K/HD+30K/HD+35K, CP2000-S/-SB/-h/-i/-X/-XB/-M/-MR/-ZX Coolant Flush Instruction Sheet (P/N: 020-100179-03***).

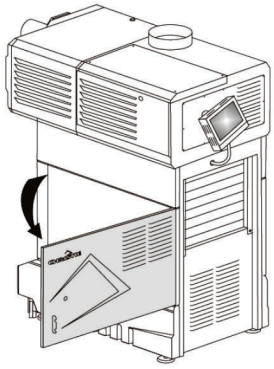
CP2000-S/-SB/-H/-I/-X/-XB AND ROADIE 25K/D+30K/HD+35K

ACCESS COOLING SYSTEM

1. Remove the projector lid. On the Roadie 25K/HD+30K/HD+35K or CP2000-X/-XB, open the igniter door (**Figure 1, left**). On a CP2000-S/-SB/-i/-h (**Figure 1, right**), open the non-operator side pedestal door and skip to Step 3.



CP2000-X/-XB and ROADIE 25K/HD+30K/HD+35K



CP2000-S/-SB/-h/-I

Figure 1 Access Cooling System

2. On the CP2000-X/-XB or Roadie 25K/HD+30K/HD+35K, remove the center (8 screws) and front belly pan (4 screws), as shown in **Figure 2**.

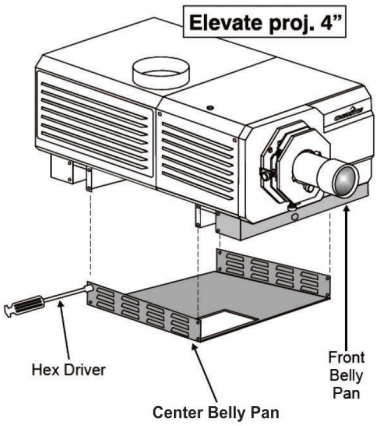


Figure 2 Remove Belly Pans

3. **Prime/Purge of Air:** Power up the projector (no lamp). Manipulate or “prime” all coolant hoses by flicking, pinching and raising them as necessary (**Figure 3**) to keep liquid moving and flowing to-and-from the pump. You must purge the system of all air, otherwise the coolant will not flow properly and may cause the DMDs to overheat. **NOTE:** *The coolant in the reservoir disappears into the system immediately after the pump has been started. You must continually refill the reservoir until the coolant level stops falling.*

CAUTION! Purge all hoses of air! On CP2000-X/-XB and Roadie 25K/HD+30K/HD+35K, check hoses in belly pan area.

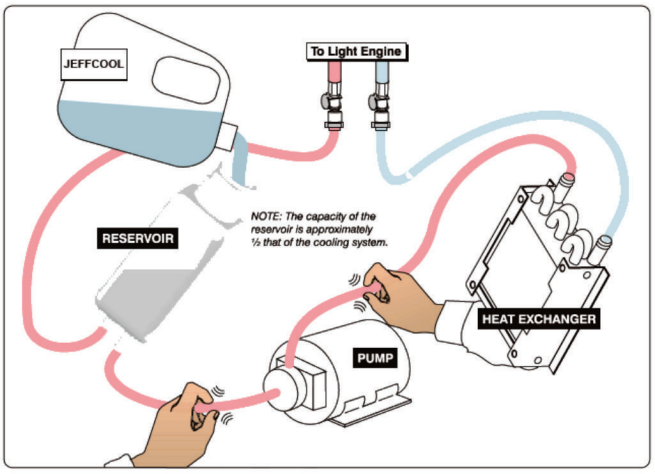


Figure 3 Refill the System & Prime all Hoses to Eliminate Air Locks

4. Continue running the projector (no lamp), topping up the reservoir as you eliminate more and more air pockets from all coolant hoses (**Figure 4**).

TIPS:

- Watch for air near all hose fittings.
- Tiny or large bubbles indicates air present. Continue priming (shake hose, etc).
- Solid, opaque hoses with no bubbles indicates system is primed and ready for use.

5. Power down. Make sure reservoir is approximately 1/2 - 3/4 full, topping up as necessary. In the CP2000-S/-SB/-i/-h, double-check level through the viewing gauge on the pedestal door.
6. When you are certain that all air is purged, replace the reservoir cap, belly pan, igniter door and projector lid.
7. Power up and test.

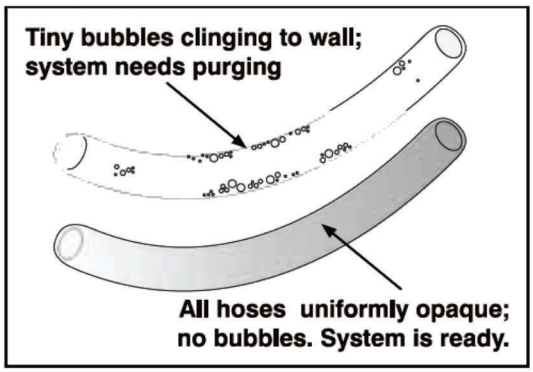


Figure 4 Check all Coolant Hoses for Air Bubbles

CP2000-M/MR

ACCESSING THE COOLING SYSTEM

1. Turn the projector lamp OFF. Wait at least 10 minutes to allow for proper cooling to take place.
2. Turn power OFF from the Control Display Panel (CDP).
3. **Remove the top lid:**
   a. Use a #2 Phillips™ to loosen the 7 captive screws securing the top lid to the projector housing (**Figure 5**).

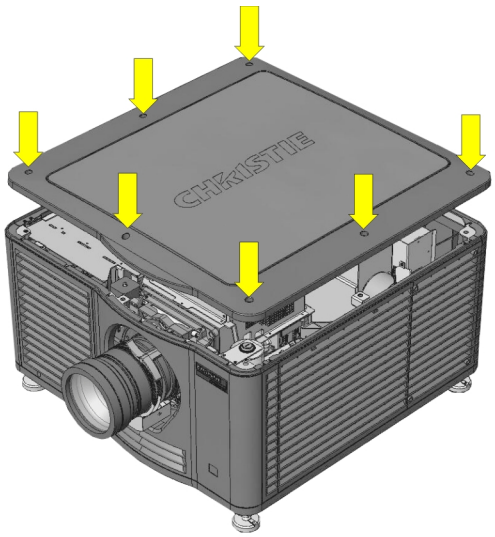


Figure 5 Remove Top Lid

   b. Unlock the rear access door using the low security key.
   c. Lift the lid up from the rear of the projector and pull it away from the 2 tabs on the front skin.
   NOTE: *When installing, align the front 2 tabs and reverse the above steps.*

CP2000-S/-SB/-H/-I/-X/-XB/-M/-MR AND ROADIE 25K/D+30K/HD+35K

FILLING THE RESERVOIR

1. Loosen the top screw (**Figure 6**) and use the fill bottle to add coolant. Power up the projector and continue adding coolant so the fluid level does not drop below the ***Minimum Fill Line***.

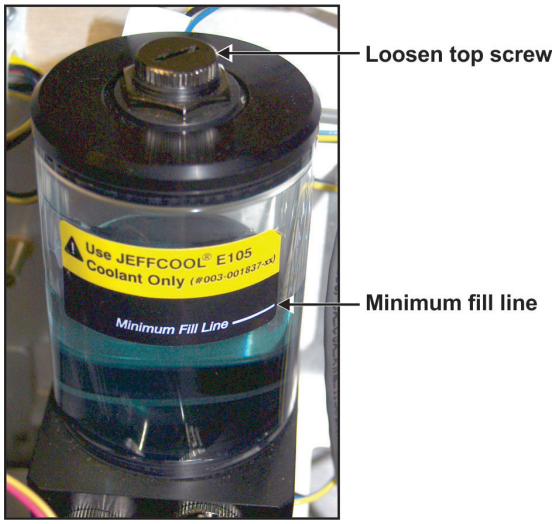


Figure 6 Fill the Reservoir

(Reservoir for CP2210, CP2220 and CP2230 shown)

2. **Air Bubble Impeding Flow:** If the liquid in the reservoir does not move due to air bubbles, remove the entire fan pack and pump section. For instructions, refer to the ***CP2000-M/MR Service Manual (P/N: 020-100124-xx)***. Tilt the pump at different angles until the coolant starts to flow.

CP2000-ZX

ACCESSING THE COOLING SYSTEM

1. Turn the projector lamp OFF. Wait at least 10 minutes to allow for proper cooling to take place.
2. Turn power OFF from the Touch Panel Controller (TPC).
3. Unlock the front lid using the high security key. Raise the lid and slide it out from the opposite side (**Figure 7**).

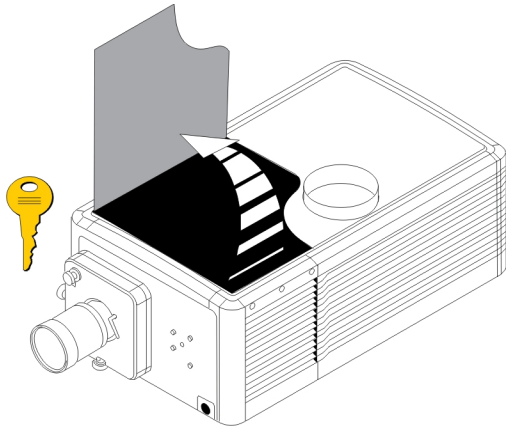


Figure 7 Remove Front Top Lid

4. Remove the PCM cover by pushing on the tab at the top of the cover. Tilt the cover slightly then lift enough to clear the tabs at the bottom and remove (**Figure 8**).
5. Remove the air filter cover by releasing the 2 tabs on the air filter cover, lift and remove (**Figure 8**).

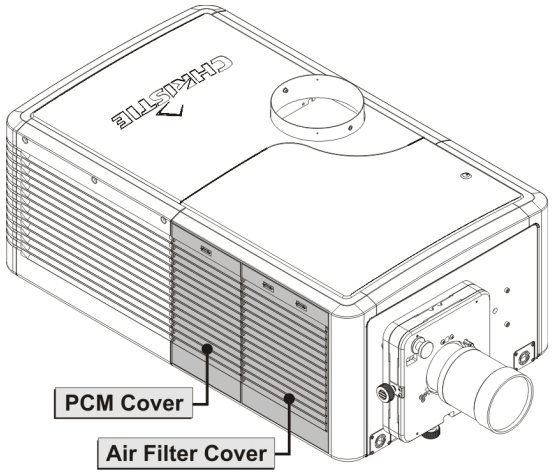


Figure 8 Remove PCM and Air Filter Covers

6. Use a #2 Phillips™ to remove the 2 screws on the security bracket (above cardcage), which secures the liquid cooling panel (**Figure 9**).

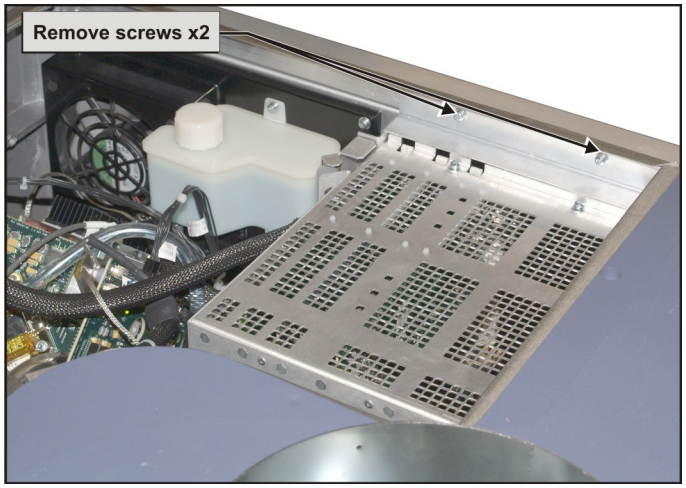


Figure 9 Remove Security Bracket

7. Remove the 4 screws securing the access panel frame, which is located on the input side of the projector (**Figure 10**).

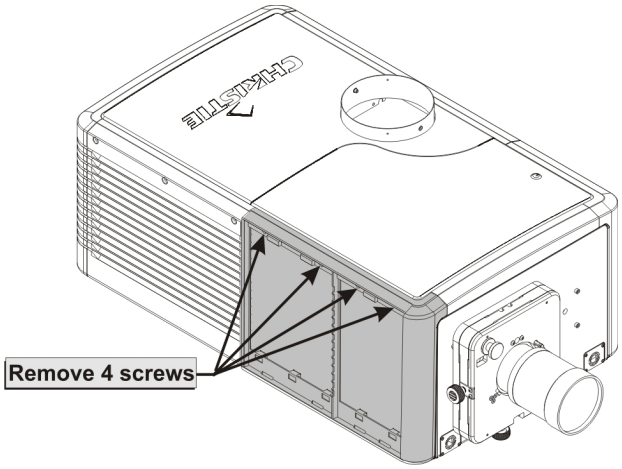


Figure 10 Remove Access Panel Frame

8. Remove the 5 screws securing the liquid cooling panel. Four of these screens are on the panel and one is located along the bottom of the panel (**Figure 11**). Swing the panel out and hang it on the screws located on the frame.

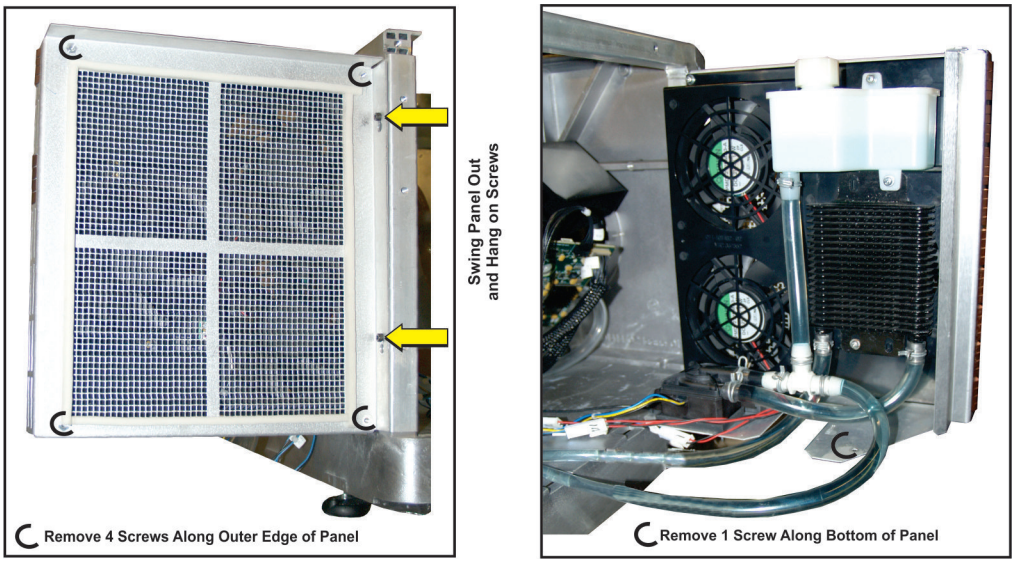


Figure 11 Remove Liquid Cooling Panel

9. Fill the reservoir with coolant. **NOTE:** *The reservoir only holds 1/2 of the required coolant for the system.*

10. Power the pump ON and watch the coolant begin circulating. Keep adding coolant into the reservoir as needed to prevent the fluid level from dropping below the ***Minimum Fill Line***. Continue running the system until the coolant appears free from air bubbles.

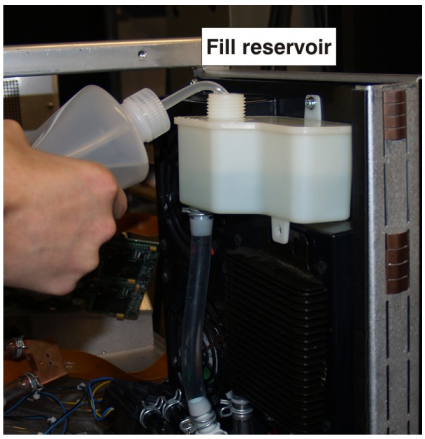


Figure 12 Fill Reservoir

SERIES II

Series 2 projectors include the CP2210, CP2220 and CP2230 models. For detailed information on flushing the coolant system, refer to the ***CP2210, CP2220 and CP2230 Coolant Flush Instruction Sheet (P/N: 020-100685-xx)***.

CP2210

ACCESSING THE COOLING SYSTEM

1. Power the projector lamp OFF. Wait for at least 10 minutes to allow for proper cooling to take place before powering the projector OFF, via the TPC.
2. Use a #2 Phillips™ to loosen the 7 captive screws securing the top lid to the projector housing (**Figure 13**).

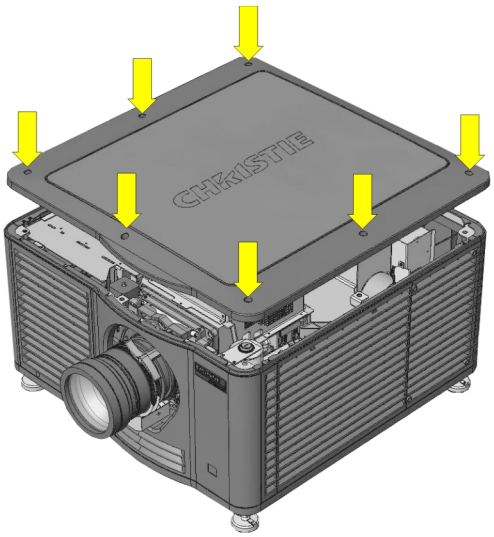


Figure 13 Remove Top Lid

3. Unlock the rear access door using the low security key. Lift the lid up from the rear of the projector and pull it away from the 2 tabs on the front skin.

CP2220 AND CP2230

ACCESSING THE COOLING SYSTEM

1. Turn the projector lamp OFF. Wait at least 10 minutes to allow for proper cooling to take place before powering down the projector, via the TPC.
2. Unlock the front lid using the low security key provided. Lift the lid up and remove (**Figure 14**).

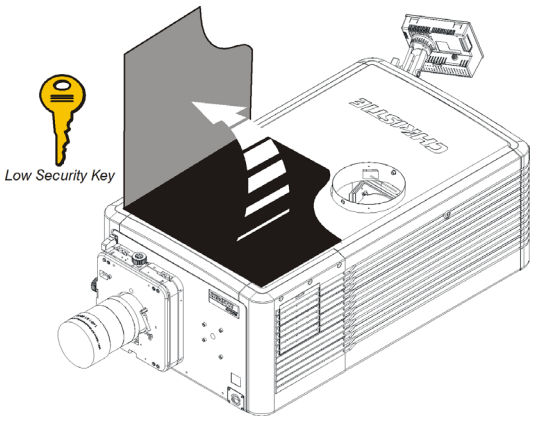


Figure 14 Remove Front Top Lid

CP2210, CP2220 AND CP2230

FILLING THE RESERVOIR

1. Loosen the top screw (**Figure 15**) and use the fill bottle provided to add coolant.
2. Power the projector ON and continue adding coolant until the fluid level does not drop below the ***Minimum Fill Line***.
3. Continue running the system until the coolant appears free from air bubbles.

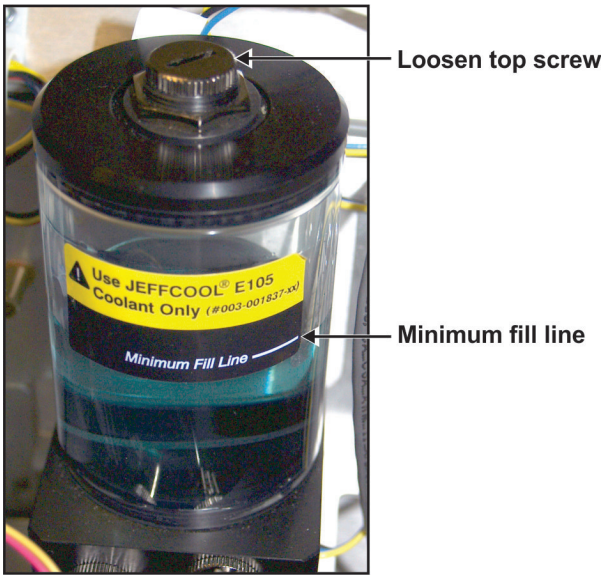


Figure 15 Fill Reservoir

(Reservoir for CP2210, CP2220 and CP2230 shown)